

THE PSYCHOLOGICAL BULLETIN

1. GENERAL

812. FISHER, S. C., The Psychological and Educational Work of Granville Stanley Hall. *Amer. J. of Psychol.*, 1925, 36, 1-52.

The early work of Hall was in the field of experimental psychology and included studies in sensation, perception and movement. When he resumed active psychological work after the founding of Clark, his interest in genetic psychology and child study, and their application to educational problems, had become dominant. All of his later writings are permeated and unified by the conviction that the understanding of the present is possible only in the light of the whole evolutionary process. Hall's fundamental "general psychonomic law" is an adaptation to the mental sphere of the concepts of biological evolution and the dependent doctrine of physical recapitulation. This principle is the organizing and guiding thread of his whole psychological and educational doctrine. Beyond it, he makes no attempt to evolve a system in the usual sense of that term, and is everywhere impatient with classification as well as with detailed experimental procedure. The major assumptions of Hall's psychology have been widely called in question, and his work contains many internal contradictions. But it must be recognized that he was the pioneer, prophet and propagandist of a young and growing science rather than the experimenter or systematist. As such, there is no field of education but has felt the influence emanating from him and has been markedly benefited. G. J. RICH (Chicago, Ill.).

813. MYERS, C. S., Some Present Tendencies of Psychology. *Amer. J. of Psychol.*, 1925, 36, 53-65.

Psychology is tending away from mental anatomy and atomism, which yield but a part of psychological truth, to a direct study of

experience as it occurs. It is also going beyond introspection to a study of unconscious processes, trying to find a unified type of activity which will explain the various manifestations which are called mental. Psychology must face, in common with physiology, the problem that both in life and in mind there is something which differentiates them from the activities of lifeless substance. There is a "purposefulness" imposed upon the organism which becomes in the higher forms of life a "purposiveness," a self-conscious realization of the existence of purpose. The explanation of life and mind as mechanism has led the way to scientific progress. But it is not the whole story. Purpose and the consciousness of purpose are necessary to a complete understanding of mental life. G. J. RICH (Chicago, Ill.).

814. WEBER, C. O., The Reality of Chances. *Amer. J. of Psychol.*, 1925, 36, 66-72.

In the problem of individuality, the decision between the three alternatives of mechanism, finalism and vitalism rests less upon reason than it does upon a sort of conscience within us. Neither mechanism nor finalism can render a consistent account of life. Viewed from the standpoint of our immediate experience, vitalism alone justifies the reality of will, of pain, of effort, and of decision: all of which are constantly present in life and consciousness. Mechanism is incapable of representing the phases of experience that make up the richest part of life as actually lived. Finalism, on the other hand, seeks to escape the weaknesses of mechanism by the futile expedient of accepting its essential meaning under guise of a different terminology. G. J. RICH (Chicago, Ill.).

815. THURSTONE, L. L., Influence of Freudism on Theoretical Psychology. *Psychol. Rev.*, 1924, 31, 175-183.

The new psychology differs in terminology, origin and subject matter from the old. Traditional psychology has concerned itself with momentary mental states and momentary behavior whereas the new psychology examines basic and permanent tendencies in human nature. Psychoanalysis, though unscientific, has called attention to the deficiency of content of the traditional psychology. P. T. YOUNG (Illinois).

816. LEUBA, J. H., Freudian Psychology and Scientific Inspiration. *Psychol. Rev.*, 1924, 31, 184-191.

Freudian psychology is of value because it is a movement towards a dynamic conception of man and because it is radically deterministic. It has performed a service to psychology in calling attention to the possibilities of recall and in opening the door to the study of central problems of personality and behavior. In cases of scientific inspiration, such as mathematical inventions of Henri Poincaré, explanation can be made without positing unconscious mental activity. P. T. YOUNG (Illinois).

817. LASHLEY, K. S., Physiological Analysis of the Libido. *Psychol. Rev.*, 1924, 31, 192-202.

Freud regards the libido as free mental energy derived from the sex instinct and capable of being repressed or drained off. Freudian dynamics may be spoken of as a system of "psycho-hydraulics." Recent experimental studies have shown that the reactions of the male rat are reducible to stimulus-response relations, and also that there is a definite relation between autocoids from the testis and sexual reactions. Undernutrition and other factors are known to be involved as conditions of sexual behavior. The evidence points to the view that sexual behavior consists of specific responses to definite patterns of stimulation. There is no evidence for the existence of free energy, libidinous or other, fulfilling the requirements of the libido. Psychoanalysis has not furnished direct evidence for the existence of libidinous energy, and other principles have been suggested which are adequate to the facts. P. T. YOUNG (Illinois).

818. JASTROW, J., The Neurological Concept of Behavior. *Psychol. Rev.*, 1924, 31, 203-218.

It is misleading to place neurology in the center of the psychological picture for we know less about nerves than about mind. It is impossible to say what insight and control will be gained by further knowledge of the neural mechanisms. The position of the behaviorist is partly fallacious and his concept of behavior is meager to the point of poverty. The study of mental disorders, such as hysteria and neurasthenia, has added to the neurological conception of behavior. This conception also finds an application in studies of the child, such as the distortion of the feeding habit and problems related to thumb sucking. Finally, Freudian psychology furnishes a clue

to the neurological interpretation. Freudian principles will eventually be absorbed in the general neurological view of behavior. P. T. YOUNG (Illinois).

819. WOODWORTH, R. S., Four Varieties of Behaviorism. *Psychol. Rev.*, 1924, 31, 257-264.

Behaviorism as a methodology offers nothing positive. Behaviorism is a program rather than a methodology. Behaviorism is not necessarily identical with the neuromechanistic interpretation; nor can we tie it up with the linguistic conception of thought. In attempting to answer the question, "Am I a behaviorist?" Woodworth replies: ". . . I do not know, and do not much care. If I am, it is because I believe in the several projects put forward by behaviorists. If I am not, it is partly because I also believe in other projects which behaviorists seem to avoid, and partly because I cannot see any one big thing, to be called 'behaviorism' . . ." P. T. YOUNG (Illinois).

820. PETERSON, J., Intelligence Conceived as a Mechanism. *Psychol. Rev.*, 1924, 31, 281-287.

Associationism has furnished the main basis for mechanistic views of behavior. Several weaknesses of associationism are pointed out. Freudian writers have ascribed force to intelligence or to consciousness. This view is fallacious. The writer defines intelligence as a "biological mechanism by which diverse impulses are brought together and given a somewhat unified and consistent effect in behavior." P. T. YOUNG (Illinois).

821. YOUNG, P. T., The Phenomenological Point of View. *Psychol. Rev.*, 1924, 31, 288-296.

The psychologist, in common with other men of science, should start his study with the acceptance of phenomena just as they are given. Certain distinctions among phenomena have been made in order that a very complex situation may be handled conveniently as, for example, the distinctions among physical, biological and mental phenomena. Independent of such distinctions is the experience relation. Any particular phenomenon may be regarded as an existence which is related to the living body of the person observing and reporting it. It is possible to regard the biological organism as a physical object capable of movement or as a psychophysical organism

capable also of experience. Consistent physical behaviorism is limited to the study of movements of the organism. The definition of psychology as the study of mental processes observed from a fixed point of view is too narrow since it ignores the great bulk of experience relations discoverable within the order of phenomena. It is not so much the observation of phenomena from a fixed point of view as the interpretation of phenomena in a particular way that will bring order into psychology. P. T. YOUNG (Illinois).

822. CALVERTON, V. F., The Rise of Objective Psychology. *Psychol. Rev.*, 1924, 31, 418-426.

The paper is an attack upon subjective psychology and the study of consciousness. Psychology may become a science through the objective study of behavior. Objective psychology has a social philosophy which as yet is little developed. P. T. YOUNG (Illinois).

823. LYDENBERG, W. B., The Dream of Materialism. *Open Court*, 1924, 38, 385-394.

A critique of the materialistic concept of consciousness as an epiphenomenon explicable in purely mechanistic terms. Sentimental, logical, and metaphysical arguments against this view, precede an analysis of the nervous system and its actual and possible functions. The author offers several questionable suggestions involving the acceptance of telepathy or other unknown forces. He advances the hypotheses that self-consciousness is a product of intercerebral stimuli, and defines a number of psychological functions in terms of cerebrally contained impulses of adjustment to conditions. He sketches a possible biological terminology for stages of psychogenesis culminating in self-consciousness. Deeming the results unsatisfactory he urges the physiological psychologists' incapacity to define illusion which has no place in a mechanical scheme of things. Moreover, knowledge processes materialistically conceived, are limited by their material medium and cannot attain to ultimate causes, or to the nature of a possible knowledge not so conditioned. C. M. DISERENS (Cincinnati).

824. REISER, O. L., Life as a Form of Chemical Behavior. *Monist*, 1924, 34, 150-160.

Most scientists incline to the belief that living matter has evolved from nonliving, a monistic view in accord with the law of Parsimony

which divides Science from Superstition. There is a movement away from the "stuff" theory of Life, to the "engine" theory which explains life in terms of chemical interactions. Life is not only the adjustment of internal to external relations but also the mutual adjustment of intraorganismic transformations. The phenomena of organicity do not yet admit of an adequate mechanical model but biologists may legitimately look forward to one in the future. The gaps in the knowledge of nature are not so unbridgeable as was once supposed. "Many of the phenomena of living matter can be duplicated in the behavior of nonliving matter." Integrating factors appear not as of a different but of a more complex order. The laws of energy transformation apply to organic as well as inorganic transformations. In short the behavior of living matter, though not deducible from the laws of thermodynamics "is no more inconsistent with these laws than molecular behavior is inconsistent with atomic or electronic behavior." The point of view developed is summed up in ten empirical laws, the last three of psychological import. Thus Memory may be regarded as "a general and fundamental function of living matter." The nervous system does not represent a new integration imposed on protoplasm, but a product of primary integrating factors which make the organism an orderly whole. "Memory is a complex synthesis of engrams." Mental processes as dependent on neural tissue constitute the supreme synthesis of Nature." Life is therefore not a Metaphysical entity but a function of chemical behavior. C. M. DISERENS (Cincinnati).

825. ELDRIDGE, S., Imperfect Correlations Between the Physical and the Vital. *Monist*, 1924, 34, 260-291.

The writer presents a comparison, by the method of concomitant variations, between vital, mental, and social processes on the one hand, and the associated physico-chemical processes on the other hand. In the first place organic structures and functions are independent both of types of physico-chemical processes and of numerically identical physico-chemical processes. Variations in memories, habits and other types of mental function are not closely correlated with the associated physico-chemical factors. Nor is there a correlation of the latter with cultural facts. The latter are a function of thought which has little in common with its material substratum, since the latter disappears while thought persists and accomplishes cultural work, indefinitely. Mind or thought moreover differs from mass in possessing retrospective and anticipatory aspects which the latter

lacks. Consciousness can not be equated with potential energy, because of inherent contradictions in such assumption. In the same way, the causal efficacy of thought can not be transferred to its instruments which may change indefinitely while the same thought persists. The conclusion is that correlations between the vital and mental, and the physical series of phenomena are too imperfect to support the view that either is wholly determinative of the other. C. M. DISERENS (Cincinnati).

826. LENOIR, R., Lamarck. *Monist*, 1924, 34, 187-236.

Here is a study of the entire scientific system of LaMarck in relation to his century and environment as well as the course of subsequent thought. The paper contains a valuable statement of Lamarck's views on psychology which were broader and more critical than those of Condillac, and the Ideologists, LaMarck's contemporaries. He classifies animals as apathetic, sensible or intelligent according to the degree of development of the nervous system and the successive appearance of automatic response, sensibility or feeling, and the presence of mental functions, ideas, etc., which repercuss upon the earlier stages. Thus he gives a genetic account of the appearance of intelligence instead of tracing all psychological modes to sensation. Moreover unlike the ideologists and their successors, he does not confine himself to considering the influence of the physical on the psychical and moral, but also recognizes the reaction of the latter on the physical. In short he makes of mind a genuine biological factor and maintains a unity of view which has too often been lost sight of. C. M. DISERENS (Cincinnati).

827. GUNN, J. A., Ribot and His Contribution to Psychology. *Monist*, 1924, 34, 1-14.

Ribot's thought was principally influenced by Lachelier, Claude Bernard, Charcot, and Taine, to whom various tendencies in his subsequent work can be traced. Taine laid the foundations of the scientific psychology which Ribot greatly helped to develop through individual contributions and as editor of the *Revue Philosophique*. Ribot's work is both critical and constructive. As a historian of psychology he produced valuable work on German and English psychology, besides translating Spencer. Among more constructive work are a valuable study of psychological heredity, a series of studies on abnormal psychology, the well known works on the affective life. General ideas and imagination, and a very important

article on Method in which the relative value and limitations of introspection as well as of supplemental psychological methods are clearly defined. Methods according to Ribot are: subjective, objective, and experimental, the latter subdivided into three divisions (1) physiological, (2) psychophysical and (3) pathological. Among Ribot's specific contributions are: statements of the law of psychical disintegration and the principle of rationalization, as well as demonstrations of the dominant rôle of emotional and unconscious trends. He thus anticipated or initiated some of the most important developments of recent psychology. C. M. DISERENS (Cincinnati).

2. NERVOUS SYSTEM

828. HUGGETT, A. ST. G., and MELLANBY, J., Action of Adrenin on the Central Nervous System. *J. of Physiol.*, 1924, 59, 387-394.

Adrenin does not affect muscle tone, decerebrate rigidity, or the reflexes of pupil, conjunctiva, or limbs. Its effect on the respiratory movements (adrenalin apnoea) appears to be by a specific action on the cells of the respiratory center. L. T. SPENCER (Yale).

829. LANGLEY, J. N., Vaso-motor Centers Part III. Spinal vascular (and other autonomic) reflexes and the effect of strychnine on them. *J. of Physiol.*, 1924, 59, 231-258. L. T. SPENCER (Yale).

830. LUSK, G., and DuBois, E. F., On the Constancy of the Basal Metabolism. *J. of Physiol.*, 1924, 59, 213-216.

Cases cited indicate that basal metabolism may be measured within an error limit of ± 15 per cent for dogs and ± 7.6 per cent in man over a number of years. L. T. SPENCER (Yale).

3. SENSATION AND PERCEPTION

831. GORDON, K., Group Judgments in the Field of Lifted Weights. *J. of Exper. Psychol.*, 1924, 7, 398-400.

Two hundred students were used for the present experiment. Each one was required to arrange a series of ten weights in the order of heaviest to lightest. The object was to discover whether or not group judgment is more nearly correct than individual judg-

ment. First the arrangement by each student was correlated with the true order and the mean of these correlations calculated. Next the two hundred orders were treated in groups of five, the average position of each weight calculated, and the resulting order correlated as before, giving forty correlations instead of two hundred. The mean correlation here was .68. For groups of ten each it was .79; for groups of twenty it was .86; and for groups of fifty it was .94. "In other words, the results of the group are distinctly superior to the results of the average member and equal to its best members. M. B. PRATT (Wellesley).

832. MYERS, C. S., A Theory of Sensory Adaptation. *J. of Physiol.*, 1924, 59, xlix-l.

Instead of Hering's conception of the antagonism between dissimilation and assimilation it is suggested that the principle of reciprocal inhibition be substituted. Adaptation then represents an active balance of excitation and inhibition. This implies two opposed sensory mechanisms instead of Hering's single substance and also "a certain 'activity' underlying the maintenance of adaptation." L. T. SPENCER (Yale).

4. FEELING AND EMOTION

833. CONKLIN, V., and DIMMICK, F. L., An Experimental Study of Fear. *Amer. J. of Psychol.*, 1925, 36, 96-101.

The emotion of fear was set up under laboratory conditions and subjected to psychological description. The emotive pattern is akin to the pattern of perception—core and context. The core consists of those sensory elements which are referred to the stimulus. In addition, there is a context which consists of images or sensations or both. As an integral part of both core and context, there is always an effective element, unpleasant in this case. The emotive pattern also resembles the fore-period of the action consciousness inasmuch as it carries the meanings both of a movement and of the result of that movement. The wide differences found among the various classifications of emotions are due to their being based upon the action-meanings which the emotive consciousness carries rather than upon the mental components or patterns of the emotions. The usual classification is logical rather than psychological, and depends upon the classifier's tendency to explicate or to generalize. G. J. RICH (Chicago, Ill.).

834. STONE, A. R., The Reaction of Memory to Affective States. *Amer. J. of Psychol.*, 1925, 36, 112-123.

The effect of an emotional stimulus, interpolated in a two-minute interval between learning and recall, upon memory for nonsense syllables was investigated. The presence or absence of emotional effect was determined by change in blood pressure, supplemented by introspective reports. The results show that memory is greatly influenced by the subject's effective state at the time of attempted recall. Some states help, some hinder; others may have either result, depending on the individual. G. J. RICH (Chicago, Ill.).

835. LANDIS, C., Studies of Emotional Reactions. 1. "A Preliminary Study of Facial Expression." *J. of Exper. Psychol.*, 1924, 7, 325-341.

Instead of photographing persons in the act of voluntarily expressing a certain emotion the writer took pictures of students who were given a series of unexpected stimuli to emotion and were instructed merely to "act natural." Music, pictures, odors, frogs, and electric shocks were used as stimuli. On the basis of the resulting photographs it was possible to make analyses of disgust, repulsion, anxiety, and pain. It was found in a check series for which several subjects were asked to reproduce voluntarily the expressions which they had already made involuntarily, that these forced expressions were more like those which have come to be thought of as typical of the various emotions than were the expressions of the first or "natural" series. Besides being often at variance with the accepted traditions these latter showed great differences among themselves. In some cases where it was expected, no expression of emotion was present at all. M. B. PRATT (Wellesley).

836. HUBBARD, L. M., Complex Signs in Diagnostic Free Association. *J. of Exper. Psychol.*, 1924, 7, 342-357.

The present article is a study of the validity of Jung's statement that perseveration of emotional tone is very significant in diagnostic association tests, and also of the validity of his assertion that this emotional tone itself can always be taken as indicative of some particular complex. An analysis was made of the results of Jung's association-test given, always in haphazard order, to one hundred subjects. "From the computations it would seem that the perseveration tendency of complex signs is too small to be of much value for

diagnostic purposes, at least with normal subjects." In the second part of the investigation a similar analysis was made, by means of which it was discovered that complex signs are to a large extent a function of position in the series. Laughter, for example, occurs most often at the beginning of the series, while the number of individual reactions increases towards the end of the series. The writer therefore draws the conclusion that conventional indications of complexes cannot be considered significant unless they occur in a place where as a rule they are seldom found. M. B. PRATT (Wellesley).

837. JONES, M. C., The Elimination of Children's Fears. *J. of Exper. Psychol.*, 1924, 7, 382-390.

Watson has shown how fears are acquired in infancy. The present writer attempts to show how they may be eliminated. An institution in which generally normal children were cared for was chosen as a laboratory, and 70 of these children, from three months to seven years of age, were studied. Various methods for eliminating fears were employed: the method of elimination through disuse; the methods of verbal appeal, negative adaptation, repression, distraction, direct conditioning, and social imitation. Unqualified success in removing fear was achieved in only two cases. Generally a combination of methods was used, but the two which seemed most effective were those of direct conditioning and of social imitation. M. B. PRATT (Wellesley).

838. MOSS, F. A., Note on Building Likes and Dislikes in Children. *J. of Exper. Psychol.*, 1924, 7, 475-478.

The writer describes experiments in which conditioned responses were built up successfully in two children, aged two and four. M. B. PRATT (Wellesley).

839. CORALINK, A., Fear. *Open Court*, 1924, 38, 16-20.

Fear is the most intense yet incomprehensible of human emotions. So-called genetic explanations of fear are mere descriptions. All we know, is that fear is always connected with a desire to escape somewhere, and that its source is some kind of uncertainty. Reality is never terrible. Fear is therefore a creative force, a stimulus to the imagination in science, religion, and all else that makes for civilization. A new South American drug is said to banish fear but if true, its value is questionable since the control and creative employ-

ment of fear rather than its annihilation is desirable. C. M. DISERENS (Cincinnati).

5. MOTOR PHENOMENA AND ACTION

840. JACOBSON, E., Progressive Relaxation. *Amer. J. of Psychol.*, 1925, 36, 73-87.

A method is described to relax the striated musculature in a progressive manner, in which the subject is trained to continue the process of relaxation, or negative contraction, to an extreme degree with special emphasis upon the muscles of the ocular region and of the speech apparatus. The degree of relaxation may be judged either by objective signs or, subjectively, by the absence of the sense of muscular tenseness. The subjects learn, without direct suggestions or leading questions, to observe slight and fleeting variations in these sensations, even in the small muscles. All the subjects who attained high skill in progressive relaxation found that with visual imagery there is a sense of tenseness in the ocular muscles. Without such faint tenseness the image fails to appear, and with complete ocular relaxation the image disappears. Motor or kinaesthetic imagery follows a similar course. "Inner speech" ceases with progressive relaxation of the muscles of the lips, tongue, larynx and throat. Auditory imagery is attended by tenseness, sometimes felt in the auditory apparatus, but characteristically in the ocular muscles (looking towards source of sound), and with relaxation of these tensions the auditory image is absent. The imageless state is attained only in complete relaxation, which passes into natural sleep if maintained for a relatively prolonged time. With progressive muscular relaxation, attention, recollection, thought-processes and emotion gradually diminish. G. J. RICH (Chicago, Ill.).

841. WOOLBERT, C. H., A Behavioristic Account of Intellect and Emotions. *Psychol. Rev.*, 1924, 31, 265-272.

In contrasting intellectual and emotional behavior it is important to distinguish between the extensity and intensity of certain bodily changes. Intellectual processes tend to intensify tonicity and movement in a restricted field of muscles while emotional processes tend to raise or lower tonicity in a field approximating the total organism. In speaking of the difference in question it would be better to use the adjectives, *intellectual* and *emotional*, than the nominatives, *the intellect* and *the emotions*. P. T. YOUNG (Illinois).

842. WATSON, J. B., The Unverbalized in Human Behavior. *Psychol. Rev.*, 1924, 31, 273-280.

The organization of bodily habits may or may not be paralleled by verbal organization. In infants too young to talk a great deal of organization goes on. The manual habits of three-year-and-under infants are unverbalized and the only way to test "memory" is to place infants in a situation where bodily organization can be exhibited. The weakness of the Freudian assumption of the unconscious is this: the infant never had verbal organization for the experiences supposed to be repressed in the unconscious. Infancy turns out to be a wholly natural state of being. There is another field in which unverbalized organization goes on. Not only in infancy but throughout life our visceral system is subject to the laws of habit formation. P. T. YOUNG (Illinois).

843. WELLS, F. L., Notes on "False" Reactions. *Psychol. Rev.*, 1924, 31, 311-320.

The studies of Wells and Sturges, Henmon, and Grace Bird are discussed. The question of the relation of speed of reaction and tendency to false reaction is raised. Data on the false reactions to black and white are presented. P. T. YOUNG (Illinois).

844. CASON, H., Criticisms of the Laws of Exercise and Effect. *Psychol. Rev.*, 1924, 31, 397-417.

The writer criticises the law of exercise (use and disuse) as set forth principally by Thorndike, and also the law of effect. Under the latter heading the adequacy of satisfiers and annoyers as agents for stamping in and stamping out reaction tendencies is questioned. Thorndike's doctrines are said to be based upon a worn out affective psychology; and furthermore these laws are anthropomorphic and mentalistic. P. T. YOUNG (Illinois).

845. NIXON, H. K., A Sphygmograph with an Electric Attachment for Recording Pulse Rate at a Distance. *J. of Exper. Psychol.*, 1924, 7, 358-370.

The article describes a new sphygmograph which can be attached to the pulse in the wrist by means of a simple lever-device and a pair of weights which control the amount of pressure brought to bear upon the wrist. The apparatus is so made that it will remain properly adjusted for an indefinite length of time, and for this reason has

been found useful in ordinary laboratory work. The record can be made with ink upon plain paper as well as by marking on a smoked drum. The writer appends a survey of sphygmographic devices which already have been employed, and also adds a long bibliography. M. B. PRATT (Wellesley).

846. DASHIELL, J. F., An Experimental Isolation of Higher Level Habits. *J. of Exper. Psychol.*, 1924, 7, 391-397.

The writer of the present article attacked the problem of the learning-plateau by using three groups of subjects. Each group was given a more or less complicated form of the same task to learn. Group *S* learned to use a code and practiced the same code every day; Group *C* learned a new code every day; and Group *I* learned a new code every day which was of such a nature that it would presumably produce interference with the code learned on the previous day. The results show the hierarchy which might have been expected: the rate of learning proved to decrease in the order of Group *S*, Group *C*, Group *I*. The writer concludes that "by employing a type of response-complex (substitution) that involves part-responses readily changeable and controllable, and by assigning to different learning-groups problems calculated to arouse over a series of trials different combinations of general and of particular responses, clear differentiations in rates of learning were exhibited as due to these different combinations." M. B. PRATT (Wellesley).

847. TUTTLE, W. W., The Effect of Attention or Mental Activity on the Patellar Tendon Reflex. *J. of Exper. Psychol.*, 1924, 7, 401-419.

A method was worked out whereby the patellar tendon of a subject could be stimulated at regular intervals and with uniform intensity by a hammer-device, and the intensity of the reflex measured by the height of the resulting kick. At the same time that the subject was being given regular blows on the knee he was engaged in casual conversation with the experimenter, or engrossed in the solving of some difficult problem, or was as passive and inattentive as possible. The intention was to discover what the relation is between muscle-tonus as measured by the knee-jerk and what is commonly called attention. The records show clearly that there is an extremely close relation: the height of the kick was greatest during problem-solving, not nearly so great during conversation, and barely present at all during inattention. The writer states that

there are three ways in which this fact may be interpreted, namely, that muscle-tonus is (a) one of the factors in the attentive process, (b) a function of the attentive process, or (c) the process of attention itself. The writer favors the last interpretation. C. C. PRATT (Harvard).

848. CARR, H. A., and KELLEY, C. M., The Curve of Learning in Typesetting. *J. of Exper. Psychol.*, 1924, 7, 447-455.

This article deals with an analysis of the factors entering into typesetting, and with the records, as represented by curves of speed and accuracy, obtained by a class learning to set type under actual school conditions. M. B. PRATT (Wellesley).

849. LIDDELL, E. G. T., and SHERRINGTON, C. S., Further Observation on Myotatic Reflexes. *Proc. of Royal Soc.*, 1925, 97, 267-283.

Influence of the otic labyrinth on myotatic reflex of the knee extensor is studied. Inhibition of the knee extensor by a myotatic reflex obtained by stretch of the knee flexors is not reversed by strychnine. This is related to the suggestion that strychnine reversal occurs only when the nerve trunk stimulated contains afferent fibers leading to both excitatory and inhibitory motor neurones. L. T. SPENCER (Yale).

850. FURUSAWA, K., HILL, A. V., LONG, C. N. H., and LUPTON, H., Muscular Exercise, Lactic Acid and the Supply and Utilization of Oxygen. Parts VII-VIII. *Proc. of Royal Soc.*, 1924, 97, 155-176.

The relation of oxygen intake and requirement to severity and duration of muscular exercise is studied. L. T. SPENCER (Yale).

851. HILL, A. V., LONG, C. N. H., and LUPTON, H., Muscular Exercise, Lactic Acid and the Supply and Utilization of Oxygen. Parts IV-VI. *Proc. of Royal Soc.*, 1924, 97, 84-138.

Methods and results of study of recovery and oxygen debt at the end of severe and moderate exercise in man are described. L. T. SPENCER (Yale).

852. BIRCH, J., The Origin and Development of Instincts. *Open Court*, 1924, 38, 594-604.

Recognizing the general disagreement as to the definition of instincts and their relation to reason, the writer gives a useful sum-

mary of views, from Paley to Wundt, and concludes "that by instinct is implied the generic term comprising all those faculties of mind which lead to the conscious performance of actions which are adaptive in character but pursued without necessary knowledge of the relationship between the means employed and the ends attained." Such instincts may characterize both plants and animals. They are distinct from reflex and automatic acts, in lacking a precise external stimulus but being rather, responses to complex external conditions of the organism. Their development is either forced upon the individual by environment or is a mere unfoldment of the chemical potentialities of the organism. In man, instincts exhibit complicated interrelationships and in many cases are nonadaptive survivals from a prehuman stage of evolution. C. M. DISERENS (Cincinnati).

6. ATTENTION, MEMORY AND THOUGHT

853. STUMBERG, D., A Comparison of Sophisticated and Naïve Subjects by the Association-Reaction Method. *Amer. J. of Psychol.*, 1925, 36, 88-95.

In a simple association-reaction test, in which no emotional feature was introduced, sophisticated subjects were able to prevent detection much of the time. The methods they used to accomplish this end included: lengthening the reaction-time to certain noncrucial words; lengthening all reactions so much that no crucial differences would appear; associating noncrucial words with others in the same set; having words in readiness as responses to probable test-words; and using a definite mental set, no matter what word appeared. The method is unreliable when the subjects are sophisticated. G. J. RICH (Chicago, Ill.).

854. BETHEL, J. P., An Experimental Investigation of the Influence of Certain Weather Conditions upon Short Periods of Mental Work. *Amer. J. of Psychol.*, 1925, 36, 102-112.

The effect of weather conditions was studied by means of tests of visual memory (immediate and delayed recall of nonsense syllables) and of auditory memory (immediate recall of numbers), performed weekly over a period of 4 months. There seemed to be no quantitatively measurable influence of weather conditions upon visual memory in this experimental situation. Relative humidity, barometric pressure and temperature appeared to affect efficiency in

auditory memory inversely, i.e., as humidity, temperature and pressure rise, the scores for auditory memory become lower. The results indicate that barometric pressure is the most important factor; a low pressure is favorable to mental work. To properly interpret results of this sort, introspective reports of the subjects' affective states should be obtained. G. J. RICH (Chicago, Ill.).

855. DALLENBACH, K. M., Dr. Oberly on "The Range for Visual Attention, Cognition and Apprehension." *Amer. J. of Psychol.*, 1925, 36, 154-156. G. J. RICH (Chicago, Ill.).

856. PYLE, W. H., A Theory of Learning. *Psychol. Rev.*, 1924, 31, 321-327.

After presenting some of the chief facts about learning the writer presents a physiological theory. Three laws of brain action which account for the facts of learning are: (1) simultaneous brain activities are connected, (2) strong connections are formed only in focalized brain activity, (3) the more vigorous the focalized brain action, the stronger are the associative bonds that are formed. The present theory stresses the importance of (2). P. T. YOUNG (Illinois).

857. WATSON, J. B., The Place of Kinaesthetic, Visceral and Laryngeal Organization in Thinking. *Psychol. Rev.*, 1924, 31, 339-347.

When an object stimulates the human organism the response may be kinaesthetic involving gross manual or other movements, or it may be verbal involving the laryngeal muscles, or it may be visceral involving the smooth muscles and glands of the organism. Habit organization may proceed on any one of these three levels. Any one of the three types of response may become conditioned and may appear as a substitute response for an absent object. Thinking is chiefly subvocal talking but it may also involve manual and visceral organization. Thinking is possible without implicit speech behavior. P. T. YOUNG (Illinois).

858. HOLLINGWORTH, H. L., Particular Features of Meaning. *Psychol. Rev.*, 1924, 31, 348-368.

The writer considers analytically a variety of features of the meaningful event. The scope of the paper is indicated by the follow-

ing section headings: native and learned sequences; redintegration and conditioned reflex; is "telescoping" also meaning?; levels of meaning (three levels—postural, autonomic, intellectual); meaning and logical implication; perception and thought; completeness and incompleteness; thoughts and things; confidence and development; the problem of identity. P. T. YOUNG (Illinois).

859. LASHLEY, K. S., Studies of Cerebral Function in Learning (VI). *Psychol. Rev.*, 1924, 31, 369-375.

The doctrine that repeated passing of the nerve impulse across the synapse lowers synaptic resistance is widely accepted but no direct evidence for such synaptic changes has ever been obtained. It is not sound to argue from the gradual improvement in function during learning to a change in synaptic resistance with repetition of stimulation. In some cases a single performance fixes a habit. Professor Lashley presents two experiments of his own which are incompatible with the traditional view. (1) The left eye of a rat was blindfolded and the animal was trained in a Yerkes discrimination box. Later when the right eye was blindfolded the discrimination was made perfectly with the left eye. The wearing down of resistance in the afferent tract from the right eye could not affect the tracts from the left eye. (2) The right precentral gyrus of a cebus monkey was cauterized and paralysis of the left arm and leg resulted. The monkey was then trained to open latch boxes with the right hand. Later the left precentral gyrus was destroyed with a resulting paralysis of the right hand. When the animal recovered there was perfect transfer of the habit to the left hand which was paralyzed during training. In this case neural paths are utilized which were not activated during learning and the wearing down of synaptic resistance offers no explanation. P. T. YOUNG (Illinois).

860. ADAMS, H. F., The Formation of Associations. *Psychol. Rev.*, 1924, 31, 376-396.

The author modifies McDougall's drainage theory by introducing the concept of double neural tracks connecting cortical areas. The revised theory depends upon the "radiation" of nerve energy and upon a principle of "attraction." The latter means a lowering of synaptic resistance such that nervous energy flows towards the excited cortical center. This theoretical view is elaborated to take into account such phenomena as the relation between attention and association, inhibition and facilitation, backward and forward association, remote associations, associative inhibition, the effect of

rhythm, fluctuation of attention, association and involuntary attention, retroactive inhibition, distributed repetitions. P. T. YOUNG (Illinois).

861. McCLATCHY, V. R., and COOPER, M., A Psychological Study of Linguistic Abilities with Reference to the Results of Word Association Tests. *J. of Exper. Psychol.*, 1924, 7, 371-381.

Four tests were used in this study: a free association test devised especially for the particular students who took part, an analogies test (not described in the text), a proverbs test which required the pairing off of Arabian and English proverbs, and a sentence completion test in which a short story with many spaces left blank was to be completed. The reaction-times and the number of normal, or conventional, responses in test 1 were correlated with the excellence of performance in tests 2, 3, and 4, with the result that a close relation was found to exist both between conformity of response and linguistic ability as revealed in tests 2, 3, and 4, and between quickness of response and linguistic ability. M. B. PRATT (Wellesley).

862. WHITELEY, P. L., The Dependence of Learning and Recall upon Prior Mental and Physical Conditions. *J. of Exper. Psychol.*, 1924, 7, 420-428.

This investigation was conducted with a view to discovering whether learning and recall depend upon prior mental and physical conditions. Calisthenics and multiplication-exercises were used for this purpose, and three- and four-letter monosyllabic words were used as the learning material. The words were exposed serially on a drum and for the recall the anticipation-method was used. While an analysis of the records of the graduate students used in the experiment reveals a slightly positive tendency, "the group results are unambiguously negative in character. The data indicate quite conclusively that such amounts of physical or mental work preceding learning do not influence either the ability to learn a list of words nor the ability to recall such material twenty-four hours later. Neither does such work exert any detrimental effect when it is introduced prior to the recall of material that has been previously learned under ordinary conditions." M. B. PRATT (Wellesley).

863. BROOKS, F. D., Learning in the Case of Three Dissimilar Mental Functions. *J. of Exper. Psychol.*, 1924, 7, 462-468.

This article reports an investigation in which the learning of three different kinds of tasks was studied. These tasks were: cancellation

of a's and t's, mental multiplication of three-place by two-place numbers, and inverted writing. Twenty-four students were used as subjects and were practiced 15 minutes a day for 14 days. The conclusions drawn were that "a comprehensive comparison of plateaus in the three functions cannot be made because the learning could not be continued long enough. Practice seems to preserve the ranks of the individuals in the three functions, but at the same time it makes them less alike. Identical training, instead of reducing individual differences, increases them in such amounts in the three functions that the more significant differentiation of individuals seems to be in the higher intellectual traits. Improvement is more permanent in cancellation, and least permanent in mental multiplication. A high initial score implies greater improvement in the latter, but less in the former. Improvement in cancellation implies improvement in inverted writing." M. B. PRATT (Wellesley).

864. BROWN, W., Effects of Interval on Recall. *J. of Exper. Psychol.*, 1924, 7, 469-474.

"A list of common words was presented to be learned, and immediate recall was demanded. After intervals of eight or sixteen minutes a second recall was demanded without warning. After intervals of from three to seven days there was a third (unexpected) recall. Eighteen groups of subjects, in all 531, were employed." By the method of correlation it was found that "recitation after sixteen minutes is not much inferior to recitation after eight minutes," but "as the interval between the time of learning and subsequent recall is increased from three to seven days, there is a slight falling off in average retention." It was also found that a positive relation exists between amount learned and amount recalled, though as the interval between learning and recall increases the relation gradually falls off. The amount retained after several days (third recall) appears to be more closely related to recitation (second recall) than to the original learning (first recall). M. B. PRATT (Wellesley).

865. CARMICHAEL, R. D., The Structure of Exact Thought. *Monist*, 1924, 34, 63-95.

The psychology of abstract thinking is illuminated by a recent experiment carried out to show that logical processes may be independent of any particular set of mental images associated with the objects of thought, and may be performed without knowledge of the concrete objects to which the postulates refer. Part of a class

construct postulates characterizing a chosen set of objects, while others determine the nature of the objects thereby. The result is a miniature mathematical science, the construction of which is an indispensable exercise to all who would understand the nature of exact thought. Exact thought is that which is involved in the construction of a doctrinal function, by which is meant, "a body of propositions made up of a consistent set of postulates and the consequences which flow from the postulates by such processes as compel assent to the conclusions reached." In spite of the common view that such a development is a mere extended tautology, it seems that actual novelties appear, so that this process is of incalculable value to philosophy and the sciences. The assumption that whatever is necessary in thought is necessary in nature is not strictly demonstrable but is a justifiable article of scientific faith. The capacity to develop doctrinal functions indefinitely, *i.e.*, achieve creative thinking, exhibits the inadequacy of every mechanistic explanation of the intellectual life of man. C. M. DISERENS (Cincinnati).

7. SOCIAL FUNCTIONS OF THE INDIVIDUAL

866. WELLS, F. L., Attesting Psychologists for Public Service. *Psychol. Rev.*, 1924, **31**, 328-335.

The paper is a discussion of the certification of consulting psychologists, based upon remarks at the meeting of the American Psychological Association, Madison, Wisconsin, December 27, 1923. It is desirable, in the interests of public service, to have more than one grade of consulting psychologist. P. T. YOUNG (Illinois).

867. HEARN, J. E., The Nature of Man. *Open Court*, 1924, **38**, 54-58.

The author reviews and criticises famous definitions of human nature emanating from philosophers and biologists. He concludes that no perfect criterion has been proposed. Only man's successor will be able to define man. C. M. DISERENS (Cincinnati).

868. MCCLELLAND, H. T., Mysticism and Magic. *Open Court*, 1924, **38**, 310-320.

This is a critique of a species of spurious mysticism which is now prevalent and which relies on external measures for its success. Traditional religion for example is often negative and unintelligent,

in opposing nature with artificial polities. True Mysticism is the antithesis of this attitude. The tendency to seek magical solutions for all problems leads the author to divide the world into Mystics and Vulgarians, the latter, seekers after magic formulae in all domains of life. The magical attitude is today manifested in business and politics as well as religion and philosophy. The prophylactic is a genuine mysticism; a religion involving responsibility, reverence, cosmic emotion, and exaltation. The function of religion is to secure a mystic liberation from the external Present, while the magical attitude wherever manifested, involves a constant manipulation of this external in the interest of ignoble and ephemeral purposes. The presence of a genuine mysticism in the sense described constitutes the unifying factor in all philosophy. C. M. DISERENS (Cincinnati).

869. McCLELLAND, H. T., *Open Court*, 1924, 38, 563-573.

A study in the psychology of hypocrisy. So-called vital lies, are shown to impede rather than aid human adjustments. They represent an attitude towards experience which is both artificial and superficial and are motivated by a desire to escape from reality. C. M. DISERENS (Cincinnati).

870. CHRISTIE, J. B. T., *Psychology and the Communist. Open Court*, 1924, 38, 504-507.

A distinction may be drawn between Higher and Lower Communism. Exponents of the former have often been striking religious or intellectual leaders. Representative of the lower communism which culminates in catastrophic social changes suffer from an inferiority complex. One of this type is undeveloped, and primitive, like a child projecting his weaknesses on to others in the form of a so-called criticism of the existent social order. He compensates for his feeling of inferiority by self-assertiveness and violence. Such phenomena are exaggerated in the Mass, according to the well known laws of mob psychology. The remedies are education and sublimation. C. M. DISERENS (Cincinnati).

871. LENOIR, R., *Systems of Aesthetics in France. Monist*, 1924, 34, 380-394.

Descartes although he wrote no formal treatise on aesthetics or any special branch of aesthetics except the "Compendium Musicae," impressed upon artists and theorists the conception of a logical and

quantitative treatment of their subject matter. The attempt to apply the philosophic spirit in the fine arts developed slowly through the mediation of Cartesians or those influenced by Cartesian method. Thus according to De Crousaz (*Traité du Beau*) Science and Art must employ the same logical organization and the beautiful is essentially geometrical. Dubos (*Reflexions critiques sur la poésie et la peinture*) in the same spirit criticises contemporary art as trivial but has no positive suggestions as to the application of method. Batteux creates a distinction between the liberal and mechanical arts but insists that both are based on scientific method. In contrast Pere André gives an anti-intellectualistic orientation to reflexion on the fine arts in his "*Essai sur le Beau*." As a result of English influence an incoherent and eclectic attitude appears in Diderot. This promoted the growth of Romanticism which came as a reaction to logical systems of Aesthetics. Emeric David, Quatremere de Quincy and Madame de Stael express stages in this change from reflection on ideal and logical beauty to what was supposed to be life and nature. Cousin later unites all these tendencies along with German metaphysics in a new eclecticism where art is identified with the search for spiritual beauty of which nature is the symbol. Art thus becomes a privileged mode of knowledge and its theory from logical becomes mystical, a tendency which remains in Taine, Guyau, and in the *Einfühlung* of the Germans and the Expressionism of Croce. A positive spirit in reflection on art reappears with Darwinism and the new Criticism, but this evaporates in formal mechanism so that in spite of intentions the science of the Beautiful opens up a wider field for the Metaphysics of Beauty. Thus Cartesian reflexion on the fine arts continues to be discredited while art theory remains out of touch with humanity. C. M. DISERENS (*Cincinnati*).

872. MACCURDY, G. G., The Field of Paleolithic Art. *Amer. Anthropol.*, 1924, 26, 27-49.

"The paleolithic artist's range of models included both the animate and inanimate but was confined almost wholly to the fauna." Within the latter class mammals largely monopolized attention. Representations of birds and fishes are relatively rare while reptiles, invertebrates and plant forms are very infrequent. Game animals occur most frequently, the horse leading in the number of presentations. Animals seem to appear in the order of their frequency as source of food supply. Cave artists show a predilection for the female of the species doubtless because of the association with

fecundity. The artistic treatment of the human form is inferior to the treatment of animal forms. Human and animal representations are usually of the entire figure, and where parts are portrayed, phallic representations are rare. Detailed tables giving the localities, nature, and age of human and animal representations in paleolithic art, constitute the major part of the paper. Similar tables for representations of inanimate forms, such as alphabetiform signs, chevrons, frets, spirals, volutes and wave ornaments, claviform signs, darts and tectiforms, are included. In many cases these are derived by conventionalization from the animate. The author points out the limitations of the paleolithic artist due to paucity of utensils, tools, and material media. Much of the material was ready to hand and imperishable but primitive artists probably also used perishable materials, *e.g.*, wood and clay. Paleolithic artists drew to scale and exhibited considerable skill in the control of media. Much of the art was doubtless of magical rather than esthetic import. C. M. DISERENS (Cincinnati).

8. SPECIAL MENTAL CONDITIONS

873. RANK, O., The Trauma of Birth in Its Importance for Psychoanalytic Therapy. *Psychoanalytic Rev.*, 1924, 11, 241-245.

This paper was read before the American Psychoanalytic Society on June 3, 1924. In it the writer sums up what he considers his personal contribution to psychoanalysis, developed in full in his recent book "*Das Trauma der Geburt und seine Bedeutung für die Psychoanalyse*." The writer found that if he set a definite time limit for the end of an analysis definite and unmistakable reactions were shown by the patient which could only be understood as a reproduction of the separation from the first libido object, the mother. The same phenomenon occurred, but was less clearly expressed, during the last phase of an analysis when no time limit was set. The end of the analysis, in other words, was producing a condition in which the trauma of birth was relived in the unconscious. In order to avoid this experience the writer proceeds in every case, regardless of sex, to analyze and reveal the mother-fixation from the very beginning. The patient's actual conflicts may then be dealt with and easily solved, and in the end he is enabled to free himself from the analyst with greater ease. The writer believes that his viewpoint extends and biologically supports Freud's concept of the neurosis; and he concludes that "The understanding of the birth

trauma practically signifies a first attempt to form the psychoanalytic therapy into a quite definite procedure having but one meaning, namely the freeing from the mother fixation and the transformation of the libido thus gained into a new well adjusted *ideal* formation based on the father identification." J. W. BRIDGES (McGill).

874. BERKELEY-HILL, O. A. R., The "Color Question" from a Psychoanalytic Standpoint. *Psychoanalytic Rev.*, 1924, 11, 246-253.

The strong "feeling-tone" that characterizes ideas on the "color question" indicates an overdetermination by unconscious factors. The herd instinct does not account for all the facts. For example, it does not explain why dark-skinned people admire the fair, and why the Australian aborigines believe that a white man is one of themselves reborn. For an explanation we must turn rather to the relation in the minds of both dark and fair skinned peoples between blackness, evil and magic. The myths and customs of all races abound in such associations. Blackness is thus associated with a primitive, nonrational fear, in the unconscious of all. In addition to this cause for the dislike of a pigmented skin, there is also another, namely, sexual jealousy, based upon the widespread belief that the negro is more potent sexually than the white man and therefore sexually attractive to white women. J. W. BRIDGES (McGill).

875. MOXON, C., Freudian Theory and Sexual Enlightenment: A Study of Resistances. *Psychoanalytic Rev.*, 1924, 11, 254-262.

This article examines the basis of the objection to sexual enlightenment of children. The desire to preserve the "innocence" of the young is due to an unconscious identification with them on the part of the objecting elders. The latter wish to enjoy by proxy the sweet illusions and blissful ignorance of life the loss of which they themselves so much regret. It is also due to the envy and jealousy of the elders directed against the sexual development and experience of children. The Garden of Eden myth is analyzed. Paradise is interpreted as the mother, and the forbidden fruit knowledge by experience. Yahweh (the jealous elder) wants to keep man in a state of sexual childishness but the snake (man's libidinous desire) tempts to a life of self-directed sexual and social activity. The psychoanalytic aim in education is to "give every person from the moment of birth the environment and education that will promote the utmost possible psychosexual growth." "Sexual curiosity is a

natural impulse in childhood; and the children's need for sex knowledge is limited only by their capacity for understanding which is indicated by their questions." Truthful answers should be given to all their inquiries in order to prevent waste of energy in repressions, useless activities, and neuroses. J. W. BRIDGES (McGill).

876. SUN, J. T., Symbolism in the Sumerian Written Language. *Psychoanalytic Rev.*, 1924, 11, 263-276.

The Sumerians, a people of Ural-Altaic stock, inhabitants of the lower stretches of the Euphrates valley since about the year 6000 B.C., originated the cuneiform writing later adopted by the Assyrians and Babylonians. This writing contained less than nine hundred characters, thus compound ideograms were necessary and largely prevalent. The manner and processes of thinking of this primitive people are therefore made clearly evident by a study of their writing and its symbolism. Such a study reveals that the foreconscious intellectual processes of these ancient people were quite similar to those of the man in the street today. Extensive illustrations are given in proof of this point. J. W. BRIDGES (McGill).

877. SCHROEDER, T., Psychogenetics of One Criminal. *Psychoanalytic Rev.*, 1924, 11, 277-291.

This is a study of the determinants of a psychoneurotic's compulsion as a professional criminal. His career lasted till at the age of thirty-six a religious conversion produced a change in life. The subject was a constitutionally inferior type of feminine appearance who suffered in early life from the tortures inflicted by a drunken father and an unintelligent bigoted mother. The one awakened in him an impulse to cruelty and the other a passionate desire to escape the restraint of rules and regulations. His criminal career was also determined by the desire to escape poverty, work and the feeling of inferiority, and to attain money, ease and gentlemanly appearance. Moreover, he identified himself with his mother, and his desire to escape poverty and work was reinforced by this identification. He was escaping his mother's destiny. His attainment of the appearance of respectability was his fulfillment of her wish for his conventional goodness, and later his conversion was probably similarly motivated. The writer concludes that much anti-social behavior could be prevented by assisting the child to a socially useful compensation for inferiority, and by a more intelligent use of punishment. J. W. BRIDGES (McGill).

878. STRAGNELL, G., The Golden Phallus. *Psychoanalytic Rev.*, 1924, 11, 292-323.

In this article five dreams are analyzed in which the symbolism of yellow or gold occurs. In each case it was found that this color was associated with another symbol which proved on analysis to be the phallus. The life histories of three of the dreamers is given; all show a neurotic adjustment to life, wherein the dominant desire is for pleasure, sustenance or gain through the effort of someone else, after the manner of infants. Roughly the presence of the "golden phallus" symbolism in a dream denotes the desire for the father in either his usual rôle of nourisher or as a sexual object. The concept of the father, however, may represent in turn: "A tabooed love object, homo- or hetero-sexual, a powerful rival; a pattern for purposes of identification; a person of authority from whom emancipation cannot be obtained; or sustenance—bread." The writer further traces out the ramifications of the various components of this symbol as evidenced in the dreams quoted. The castration phantasy, analeroticism, homosexuality, sadism, masochism, and the prostitution complex are all involved. Masochism is given a broader basis of interpretation than has generally been conceded. It is given a nutritional as well as a sexual aspect. Thus the masochist wishes to be weak so that he may attain nourishment without work. J. W. BRIDGES (McGill).

879. GRAVEN, P. S., A Series of Clinical Notes on Headache. *Psychoanalytic Rev.*, 1924, 11, 324-328.

Eight cases are presented in which headaches were investigated by the psychoanalytic method and found to be psychogenic in origin. In every case the analysis was followed by the disappearance of the symptom. J. W. BRIDGES (McGill).

880. WEDGE, S. T., *The Psychology of Dreams*. Open Court, 1924, 38, 84-92.

Dreams are a source of perennial interest to mankind. Their comprehension demands a knowledge of the nature of mind and its functions. There seems to exist, conscious, subconscious, and unconscious spheres, each being a field for the exercise of distinct functions. Mental data come entirely from the external world, but the elaboration varies according to the sphere in which it takes place. Controlled, intelligently directed elaboration occurs in full consciousness. Dreams represent uncontrolled elaboration of experience

through the activity of the imagination working in the sphere of the unconscious, where a wider range of data is available. Such dream material includes emotional elements, and there is constant interaction between the processes of conscious, subconscious, and unconscious mind. C. M. DISERENS (Cincinnati).

9. NERVOUS AND MENTAL DISORDERS

881. COWIE, D. M., PARSONS, J. P., and RAPHAEL, T., Insulin and Mental Depression. *Arch. Neurol. and Psychiat.*, 1924, 5, 522-533.

"The characteristic glucose utilization curve of the depressed phase in manic-depressive psychosis is made to conform to that of a normal person or is completely flattened out, or is made to approximate that of the agitational phase by the subcutaneous injection of insulin. The amount of insulin necessary to accomplish this varies with the clinical status of the patient. There seems to be evidence that the degree of depression may be measured by the amount of insulin necessary to bring the glucose utilization curve to that of a normal person. The amount of insulin necessary to bring the curve to normal is a measure of the factors opposing the utilization of glucose." W. P. McELROY (Boston Psychopathic Hospital).

882. STEVENSON, G. S., Cardiovascular Physiology of the Mental Defective. *Arch. Neurol. and Psychiat.*, 1924, 5, 507-517.

Reports and observations which were made on thirty-seven low grade and thirty-six high grade male cases. The cases were selected within the age limits of twenty to twenty-five years, and twenty-five to thirty years. Within each of these year groups were the two groups of high and low grade cases. Three sets of observations were recorded: (A) Circulatory Efficiency Tests, in which pulse rates at reclining and at standing were compared. (B) Cardiac Reserve Tests, in which were recorded and compared (1) initial systolic blood pressure with patient at rest, (2) standard dumb-bell exercise, (3) immediate rapidly recorded successive readings of blood pressure for two minutes and again at three minutes. (C) Vegetative Sensitivity Tests, in which the effects of three drugs—suprarenal extract, atropin, and pilocarpin—were observed. "There are certain indications that the feeble-minded of the low grade have reacted like untrained persons when compared with those of higher grade. . . .

Furthermore, the feeble-minded person probably spends himself sooner. The falling off in correlation between original pulse and exercise pulse in the low grade group may mean that previous responses have raised the pulse so near its maximum that the pulse which responds to exercise has no leeway to assume its normal relations to the preëxisting pulse, hence loses correlation with it. . . . The greater fall in the standing blood pressure of the low grade group is indicative of relative inefficiency. . . . We may seriously consider whether the term 'no guts' may not in part mean a lack of splanchnic tone to keep the pressure even and the blood well distributed. It is a question whether mental age alone gives a close biological classification here. Had it been possible also to grade and to rate the emotional balance and industrial efficiency, an even more satisfactory comparison between the groups would have resulted. The psychophysical inferiorities of the feeble-minded are probably not merely dependent on a defective or insufficient cerebral impulse, but there is as well a paralleling inferiority in the integrations of the vegetative nervous system. To this we may attribute the instability of circulatory response of the feeble-minded." W. P. McELROY (Boston Psychopathic Hospital).

883. ADSON, A. W., The Surgical Treatment of Glossopharyngeal Neuralgia. *Arch. Neurol. and Psychiat.*, 1924, 5, 487-506.

A description of extracranial and intracranial operations for the relief of glossopharyngeal neuralgia. Four cases are reported. "Glossopharyngeal neuralgia is a disease with a definite entity, similar to trifacial neuralgia in its course, and probably having its origin in the superior ganglion of the glossopharyngeal nerve; it can be relieved temporarily, and possibly permanently, by an extracranial avulsion of the glossopharyngeal nerve and part of the ganglion, but division of the root intracranially should afford a permanent cure, which procedure I would advise since the technic is no more formidable than an extracranial avulsion." W. P. McELROY (Boston Psychopathic Hospital).

884. YOUNG, A. W., and ALPERS, B. J., The Protein and Cellular Content of the Cerebrospinal Fluid. *Arch. Neurol. and Psychiat.*, 1924, 5, 537-546.

"A study of the cellular and protein contents of the cerebrospinal fluid is presented in twenty-five cases in which intraspinal therapy was used with Swift-Ellis serum, in twenty-one cases in which the

intracistern route was used, and in five cases in which intraventricular treatment was given. After the intraspinal injection of Swift-Ellis serum in the lumbar region, there occurs a marked rise in the cells and the total protein of the lumbar fluid after twenty-four hours, which is still present after forty-eight hours, and has disappeared at the end of six or seven days. A similar rise in the cells and the total protein of the lumbar spinal fluid is observed after the injection of Swift-Ellis serum by the cisternal and ventricular routes. A moderate rise in the cells and the total protein of the cisternal fluid is observed twenty-four hours after the injection of Swift-Ellis serum by the lumbar route. This increase disappears at the end of forty-eight hours. There is no increase in the cells and the total protein of the ventricular fluid twenty-four hours after the injection of Swift-Ellis serum into the lumbar region. The increase in cells—which are chiefly polymorphonuclear leukocytes—is due to the irritative action of the serum on the meninges.” W. P. McELROY (Boston Psychopathic Hospital).

885. GREGG, D., The Prognostic Value of Arterial Hypertension in the Psychoses of Later Life. *Arch. Neurol. and Psychiat.*, 1924, 5, 534-536.

“From such a limited number of cases (27), inferences can be made, but no conclusions drawn. So far as the evidence herewith presented is concerned, it seems that the prognosis of the psychoses of the later years is poor if hypertension is present to complicate the situation, but good if hypertension is not found.” W. P. McELROY (Boston Psychopathic Hospital).

886. FARR, C. B., Results of Basal Metabolism Tests in One Hundred Mental Cases. *Arch. Neurol. and Psychiat.*, 1924, 5, 518-521.

“These findings suggest some endocrine imbalance in dementia praecox, but our not very extensive therapeutic trials have shown no definite improvement after thyroid extract and thyroxin. Innation and physical inactivity have not been shown to be important factors. While basal metabolism estimations have so far not proved very informing, it seems to me that they should be continued, preferably in combination with other vital function studies, as a guide to experimental endocrine therapy.” W. P. McELROY (Boston Psychopathic Hospital).

887. STRECKER, E. A., and EBAUGH, F. G., Neuropsychiatric Sequelae of Cerebral Trauma in Children. *Arch. Neurol. and Psychiat.*, 1924, 4, 443-453.

This is a study of twenty-three boys and seven girls, ranging in age from three to sixteen years. The cases are discussed from the three angles, physical sequelae, post-traumatic behavior, and psychological findings. The histories, findings, diagnoses, and present status of the cases are presented in a condensed form. Attention is directed to the similarity of these cases to post-encephalitic behavior disorders and the contrast to adult traumatic sequelae; also their relationship to problems of delinquency. "There are few statements in the literature concerning the prognosis. . . . In our group we can only state conservatively that six are improving, whereas the outlook in the remaining twenty-four is discouraging. . . . Treatment consists in careful surgical management during the acute manifestations of cerebral trauma. Rest from physical and mental exertion, removal to a quiet, nonirritating environment, intensive study in mental hospitals, more individual consideration in school, special classes and vocational guidance, are all matters of importance in treatment. During periods of mental excitement, we find that drugs are of little avail, but hydrotherapy is often helpful." W. P. McELROY (Boston Psychopathic Hospital).

888. LOCKE, C. E., and NAFFZIGER, H. C., The Cerebral Sub-arachnoid System. *Arch. Neurol. and Psychiat.*, 1924, 4, 419-442.

This is a study of consecutive admissions of men to the Manhattan State Hospital from July 1, 1911, to June 30, 1913. "The study comprises 1,004 consecutively admitted male general paralytic patients. Approximately one-third of the patients had remissions lasting one and one-half years or less; one-half had remissions lasting three and one-half years or less; and one-half had remissions lasting four years or more. From this study it may be concluded that spontaneous remissions in patients with untreated cases of general paralysis occur but are not frequent; that in at least more than one-half of the cases they are not permanent; that remissions may occur more than once in the course of the disease in the same person; that remissions are more common in cases presenting a gradual onset, with changes in the disposition, emotional instability and defects in orientation and memory than in other clinical types of general

paralysis; that there are no anamnestic, mental or neurologic criteria on which a prognosis for a remission can be based; that factors favorable to the occurrence of spontaneous remissions must be sought elsewhere than in the clinical picture of the disease; that the Jews, Irish and Germans are relatively more prone to develop general paralysis than other races; that the incidence of spontaneous remissions in Jews, Germans and Italians is low as compared with that of other races." W. P. McELROY (Boston Psychopathic Hospital).

889. JELLIFFE, S. E., Parts of Central Nervous System which Tend to Exhibit Morbid Recessive or Dominant Characters. *Arch. Neurol. and Psychiat.*, 1924, 4, 380-410.

The writer states that his point of view is functional rather than simply anatomical. In discussing heredity and development he presents Stockard's analysis, also the groupings of Jendrassik, of Londe, and of Bielschowsky. Bowers' program for research on multiple sclerosis is presented. "So far as our particular issue may be outlined, the work of the comparative anatomist, as well as of the embryologist, has indicated phylogenetic and ontogenetic modes of approach which may be followed to advantage." The latter half of this paper is concerned with the relation of heredity to various mental disorders. W. P. McELROY (Boston Psychopathic Hospital).

890. TRENTZSCH, P. J., The Objective Findings in the Psychoses. *Arch. Neurol. and Psychiat.*, 1924, 4, 370-379.

"In 601 necropsies in cases of the hebephrenic and catatonic types of dementia praecox, 71.55 per cent were found to have small aplastic hearts. The incomplete development involved also the capillary system. In a study of the weight of the heart in psychoses, 75.5 per cent of the patients with dementia praecox had hearts of less than average weight, while only 7.8 per cent of the patients with paranoia had hearts of less than average weight; 30 per cent of the patients with manic-depressive psychosis and 30.2 per cent with epilepsy had hearts weighing less than the average. . . . In conclusion, we would state that if the foregoing figures are correct, it would seem that in the neurocirculatory rating one has a definite objective symptom of the psychoses, and this suggests a physical reason for mental illness as well as those that are psychic. It is not advisable to ignore either one." W. P. McELROY (Boston Psychopathic Hospital).

891. FURMAN, I. J., Treatment of General Paralysis; Results Obtained in a Series of Five Hundred Cases. *Arch. Neurol. and Psychiat.*, 1924, 4, 359-369.

"From the work done at the Manhattan State Hospital, we feel that the most outstanding results of treatment of paralysis so far is the improvement in the general health of the patients. This is shown by the fact that fewer are confined to bed, that a greater number are paroled for a longer period and remain out of the hospital until the expiration of their parole, and that there are more true remissions." W. P. McELROY (Boston Psychopathic Hospital).

10. INDIVIDUAL, RACIAL AND SOCIAL PSYCHOLOGY

892. THORBURN, J. M., Analytic Psychology and Religious Symbolism. *Monist*, 1924, 34, 96-111.

Religion is incapable of attenuation into the merely ethical. The essence of religion is locked up in its symbols which, until the advent of psychoanalysis were misunderstood, and rejected as valueless. Hence neither rationalistic critics nor dogmatic defenders have thrown any real light on the subject. The first step toward a genuine explanation is due to Freud who shows that the "incest motive" and its variants such as the "rebirth motive" are the fundamental elements of religious myths. Freud does not indicate whether such explanation deprives myths of religious value. The latter task fell to Jung, who in his "*Psychology of the Unconscious*" shows that such transformations of the incest motive: (1) serve as an outlet for dangerous surplus energy, and (2) create social and esthetic values. In his work on "*Psychological Types*" Jung pursues the subject further, introducing ideas of teleology to supplement the principle of causal determination which has sufficed up to this point in analyzing the transformations of the libido. This is important since no science can proceed without ultimate reference to teleological categories. Perception of the teleological element in phantasy formations opens the way to a fresh recognition of the value of religious symbolism as a creative factor in the life of the race. It completes and justifies the process whereby the modern world has arrived at the conception of the relativity and subjectivity of God. Jung presents the point of view of Hindu and German mystics as well as that of Kant, in a new synthesis characterized by the thoroughness with which the metaphysical issue of the psychological problem is investigated. C. M. DISERENS (Cincinnati).

893. BOAS, F., The Social Organization of the Tribes of the North Pacific Coast. *Amer. Anthropol.*, 1924, 26, 322-332.

A study of the forms of social organization found among the coast tribes of Alaska and British Columbia raises fundamental questions regarding the theory of social development. Professor Boas finds that "as we go northward, the idea of the unity of the village community becomes increasingly associated with privileges described as crests. With the Bella Bella this system is overlaid with a system of clans identical in name with the clans of the northern matrilineal tribes, a result due to historical connections. The clans are functionless compared with village communities but involve the idea of maternal descent, which is, however, contrary to the linguistic forms of these tribes. Farther north, emphasis on the village community persists, but the community is subordinated to the exogamic clan, and the position of the individual is fixed with relation to both clan and local unit. Following the clan system southward, exogamy gradually vanishes, endogamy sometimes appearing, while local units grow increasingly independent of the fading clan system. Professor Boas adds special notes on the characteristic traits of political and religious organization among the Bella Bella. Tribes are divided into four classes, the organization being partly determined by the organization of the tribes during the Winter Ceremonial. Much complexity has arisen in the latter, through confusion of family with general tribal ceremonial. C. M. DISERENS (Cincinnati).

894. PARSONS, E. C., Tewa Kin, Clan, and Moiety. *Amer. Anthropol.*, 1924, 26, 333-339.

This is a study by the comparative method, of Tewa kinship terminology, and the principles of classification upon which it is based. Respecting the latter, there is little merging of direct and collateral kin, and there is emphasis on the principle of seniority to the exclusion of sex. There is much borrowing of terms irrespective of language, and differentiations occur from town to town. Tewa kinship terms are less expressive of clanship than in other Pueblo terminologies except that of Taos, but the relationship is never sharply defined. Kinship terms are never used as clan terms as some Tewa are unaware of the existence of clans or their clan status. The moiety system is a substitute for clans in the social consciousness. Moieties exist for ceremonial purposes, involve the concept of descent, and are associated with certain ideas of summer and winter. Moieties tend to be endogamous, though the strength of this tendency

varies from community to community. The distribution of houses is sometimes according to moieties. Tabular descriptions of clans and moieties with their affiliations and associations are included. C. M. DISERENS (Cincinnati).

895. RADIN, P., Ojibwa Ethnological Chitchat. *Amer. Anthropol.*, 1924, 26, 491-530.

An attempt to obtain personal reminiscences from certain older individuals among the Eastern Ojibwa of Ontario resulted in the collection of 91 items of what might be termed primitive gossip. Incapable perhaps of writing autobiographical accounts, the two Indians approached furnished materials of a fragmentary nature, embodying much ethnological information otherwise difficult to obtain. The results are both intrinsically interesting and ethnologically valuable, affording as they do an intimate picture of Ojibwa village life of 100 years ago. Although religion and ceremonialism are avoided, emotions, humor, and beliefs concerning the relation of Man to the animal and spirit worlds, are well represented. The items include references to such diverse subjects as fasts, dreams, phantoms, thunder and water spirits, conjuring, magic, magical garments, and mysterious animals, the medicine man (Mide) and the origin of medicine songs, primitive meteorological and geological observations, hunting adventures, and the belief in the transformation of men into animals and vice versa. Some of the stories are rather meaningless while others throw a strong light on Indian character. C. M. DISERENS (Cincinnati).

896. SULLIVAN, L. R., Race Types in Polynesia. *Amer. Anthropol.*, 1924, 26, 22-26.

The Polynesians are not a uniform racial type. The "Polynesian type" is an abstract concept embodying the characteristics of several distinct physical types. Evidence of physical changes, *e.g.*, increasing brachycephaly and stature, variation in nasal index, etc., appear upon comparison of the living with skeletal remains. Mongoloid, Negroid, and two types of Caucasoid elements may be definitely distinguished, but cannot be named until more is known of their specific racial relationships. The old view that these types may be explained by local differentiation must be abandoned. C. M. DISERENS (Cincinnati).

897. SWANTON, J. R., Three Factors in Primitive Religion. *Amer. Anthropol.*, 1924, 26, 358-365.

That peoples in every age and stage of culture have associated religious beliefs with the more startling or mysterious phenomena of nature is evident, but it does not follow that there is a causal connection between the two, as such prominent anthropologists as Tylor, Marett, Read, and Levy Bruhl seem to think. Primitive religion can not be attached to a few objects, phenomena, or emotions to the exclusion of others. Such phenomena rather excite a particular religious interest specialized out of a general religious attitude which is a primary human factor not traceable to a specific origin. Failure to recognize this fact is an example of the particularistic error in anthropology, another phase of which appears in the assumption that the various elements in the religious complex were introduced at successive periods. The elements of the religious complex should rather be regarded as simultaneous manifestations of the religious sentiment showing greater differentiation here and more specialization there but properly a unit. Hence endeavors to develop all religion from a single element of a complex must rely at best on incomplete evidence. Monotheism is more primitive than is commonly assumed and even its more esoteric side presupposes less mental advance than has been held necessary. A third point of criticism is the indefinite use of the term, animism, while Marett's term "animatism" is even more indefinite. Apart from magic, the objects exciting the religious emotions of primitive man, always contain a human element. Apparent objects of worship are generally the seat of anthropomorphic incarnations. C. M. DISERENS (Cincinnati).

898. GREEN, L. C., and BECKWITH, M. W., Hawaiian Customs and Beliefs Relating to Birth and Infancy. *Amer. Anthropol.*, 1924, 26, 130-146.

An account of the folklore connected with pregnancy, the phenomena of birth, nutrition, naming, infanticide, and adoption, with native interpretations. For example: The desires of an expectant mother particularly with respect to food, are supposed to determine the dispositions, activities and physical stigmata of her child. Births of commoners are presaged by the cries of birds; of chiefs by signs in the sky. Birthmarks are indications of a child's nature after birth and navel cords possess magical properties and are carefully disposed of. Cutting the hair is unlucky. Children are named after

relatives or to commemorate striking events. Sometimes offensive names are given to keep off evil spirits. Secret names are sometimes revealed in a dream by the gods and such names insure good luck. Elaborate ceremonies attend various stages in the nutritive life of the infant. Infanticide was formerly practised by the aristocracy as a means of preserving rank; by commoners to avoid work. Adoption was practised by the common people to avoid labor of rearing children or as a supposed protection for the child where parents had lost other children. C. M. DISERENS (Cincinnati).

899. PARSONS, E. C., The Scalp Ceremonial of Zuni. *Mem. Amer. Anthropol. Assn.*, 1924, 31, 42.

The Pueblo Indians are a relatively peaceful people and such war organizations as exist, now function as a defense against invasive custom and witchcraft. Communal well being is still regarded as absolutely dependent on maintenance of ancient ceremonial. A very important ceremonial centers about scalp taking, the object being to initiate dead enemies into the group, in order that their powers may contribute to rainmaking which is the most important consideration among these people. The scalp ceremonial which Dr. Parsons describes in detail is an eleven-day affair with the twofold object of initiating and propitiating the dead. It further gives publicity and power to the military hierarchy. Accounts of the ceremonies as communicated to, and partially witnessed by the author in 1921, are compared with Stevenson's description of 1891, and yield interesting data on the dynamics of ceremonial change. Factors of change are: (1) The substitution of one group for another in carrying out the ceremonial. (2) Decline in popular interest. (3) The destruction or disappearance of sacerdotal paraphernalia. Several myths are given which throw light on the psychological attitude behind the ceremonies. Intermingled with accounts of the nature and sequence of ablutions, fetiches, dances, taboos, etc., are examples of primitive rationalizations. The monograph is illustrated with drawings of paraphernalia, photographs of typical scenes, and diagrams showing the positions of participants at various stages of the ceremonial. C. M. DISERENS (Cincinnati).

900. MALCOLM, L. W. G., Sex Ratio in African Peoples. *Amer. Anthropol.*, 1924, 26, 454-473.

This is a study of (a) the extent and distribution of sex ratios of African tribes and (b) the relationship of such ratios to racial decline

or otherwise. The second problem remains unsettled. Ratios are calculated with regard to tribal distribution or known district. Primary, secondary and tertiary sex ratios are distinguished depending on whether conceptions, births, or adult individuals are compared. The results are stated in tabular form not permitting a summary. The contributions of other ethnologists to the problems involved are discussed at some length. Thus the effects of miscegenation on sex ratio is undetermined. Sex ratios are influenced by intrauterine mortality. Sex ratio seems lower in colored than in white races. The secondary sex ratio (of birth) is not invariably constant within an ethnic group. The relation of sex ratio to polygamy and monogamy is uncertain. A progressive surplusage of adult men over adult women in a group seems correlated with decline in the crude population and inversely. Interpretative remarks by A. S. Parkes are incorporated in the paper which includes an excellent bibliography of 66 items. C. M. DISERENS (Cincinnati).

901. SHATTUCK, L. A., Patriotism. *Open Court*, 1924, 38, 206-234.

Patriotism is psychologically a sentiment which offers a maximum of emotional resistance to criticism; biologically a mechanism of survival; while politically it is the categorical imperative of the state's metaphysics. As a political mechanism, patriotism becomes if anything more effective in democracies where density of population, leveling of mental capacity, enhancement of suggestion, and facility of propaganda, enforce its authority in a way impossible to ancient society. Yet certain elementary impulses remain basic, viz., hero worship, herd instinct, and acquisitiveness, to which political organization and the establishment of conditions for the operation of the more complex impulse of patriotism, may be ultimately traced. The author also analyzes the mutual relations of state and individual and suggests the relative efficiency of various forms of polity, finding the special weakness of democracy in an inherent tendency to a multiplicity of laws which can not be rigidly enforced. C. M. DISERENS (Cincinnati).

902. BOAS, F., Evolution or Diffusion. *Amer. Anthropol.*, 1924, 26, 340-344.

Recent anthropological work indicates that in geographically extreme areas, distinctive types of cultural phenomena occur, intermediate regions showing transitional types. This is true of social organization, folklore, material culture and artistic styles. The

occurrence of intermediate forms is evidence of diffusion, while a theory of uniform development is difficult to maintain. The assumption of a unique form of cultural beginnings does not seem plausible, but a survey of cultural phenomena points to a diversity of early patterns which spread and mingle, giving rise to new types in intermediate areas. C. M. DISERENS (Cincinnati).

903. LOEB, E. M., The Schaman of Niue. *Amer. Anthropol.*, 1924, 26, 393-402.

The priests (taula atua) of Niue differ from other Polynesian priests in that there is no specialization of function, each performing all the functions of his profession, viz., bewitching, curing, prophesying, and cursing enemies. They are therefore to be classed as Schamans. In bewitching, the victim must know of impending doom in order for spells to be effective. Priests or Schamans were regarded as possessed by the gods or ghosts, hence as infallible prophets of weather. They were of usually unstable mentality, epileptics or temporarily insane, the office consequently running in families. They were of both sexes. There was little conscious imposture or resort to artificial means of inducing delusions. A chief cause of disease was supposed to be loss of one's soul which the schaman undertook to recover by communicating with the gods while in a trance. They claim to see and receive information from ghosts. An important function is that of prophesying the results of conflicts, and paralyzing the enemy by the ceremony of passing spears through the smoke of a fire. Details are given concerning modern schamans, some of whom appear to be of quite normal mentality but actuated by mercenary motives, while others represent cases of intermittent insanity. Schamans were never regarded with awe except when in a fit, insanity in contrast with feeble-mindedness, still evoking respect among the islanders. C. M. DISERENS (Cincinnati).

904. MACLEOD, W. C., Natchez Political Evolution. *Amer. Anthropol.*, 1924, 26, 201-229.

Natchez political organization deserves careful study, because the cultures of the southeastern coasts of North America are extinct, and with the exception of the Natchez, materials for the study of this type of culture are scanty. Moreover, Natchez culture is unique and in certain details of politics-racial organization approaches Old World types throwing light on the problem of convergent evolution versus diffusion. The Natchez are a Mississippi tribe of probably Floridian

origin. State offices were prerogatives of members of the matrilineal royal family denominated as "Suns." There is a civil stratification of population in which the superior classes including in order, "Suns" or Royal family, Nobles, and "honored men" are contrasted with commoners known as "stinkards." Rank in this civic scale was not permanent, however, the next generation of any of the superior classes descending one step in the scale until they became commoners, this happening in the fourth generation in the case of descendants of male "Suns." This descent in the scale was due to the rule of exogamy within the noble groups. Commoners on the other hand, through personal prowess might ascend the scale or by offering themselves for mortuary sacrifice they might elevate their immediate family. The psychic causes of this kind of organization are traced to matrilineal descent and the firm establishment of exogamy. Mortuary practices such as the sacrifice of wives at the death of husbands prevented women of the noble classes uniting with men of the same rank, and thus establishing an endogamous and self-perpetuating nobility. Interesting comparisons are made between certain Natchez culture features and similar ones of West Africa. C. M. DISERENS (Cincinnati).

905. HERSKOVITS, M., Some Property Concepts and Marriage Customs of the Vandau. *Amer. Anthropol.*, 1923, 25, 376-386.

The Vandau are a tribe of Portuguese West Africa. The data for the study were obtained from a native studying at Columbia University. Chieftainships and subchieftainships are hereditary but headships of kraals are not. Property rights are well established and an individual may claim as much land as he cultivates or intends to cultivate. Land sales are unknown and deserted land reverts to the public. Everything is privately owned, communism being absent. Trespass is punishable by beating, but if an owner kills the trespasser he must pay blood money or work for the victim's family as compensation. The sexes enjoy equal property rights but as a general rule, "members of each sex own those things with which they are most concerned." Inheritance is in the male line, the eldest son inheriting most, while none are unremembered. Disputes are submitted to regularly constituted native courts and evidence is required for conviction. Religious sanctions enhance the power of the courts. In arranging marriages parental authority is considerable, but coercion is rare, since this would menace family solidarity which is greatly prized. The number of wives a man has depends upon his wealth,

and is a factor in increasing the latter. A plurality is thought honorable because of the prestige it confers. C. M. DISERENS (Cincinnati).

906. WATERMAN, T. T., The Subdivisions of the Human Race and Their Distribution. *Amer. Anthropol.*, 1924, 26, 474-490.

Few things are more conspicuous than racial differences, but which are hereditary, which are due to geographical influences, and which are simply the expressions of slowly developed group ideas or convictions or habits, has never been determined. Most differences appear to be in training or culture, though some are inborn. We may distinguish three great racial groups, the White and Yellow occupying the central land area toward the north called by the author, Holarctica, and the Black in the peripheral regions of the south. The reasons for this distribution appear to be that the Negro is an earlier, more primitive, and probably inferior human type which has been pressed to the south by the more advanced Mongolian and Caucasian groups which are apparently of equal endowment. Mongolian and Negro are definitely characterized groups while the White man is extremely variable, being possibly some blend of the other two. The Negro, however, seems to be a definitely inferior and vanishing group, while the other two are maintaining themselves upon an equal footing. Within the Mongolian group the Malay division is at present advancing to what may prove a dominant position. C. M. DISERENS (Cincinnati).

907. BARNES, H. E., Theories of the Origin of the State in Classical Philosophy. *Monist*, 1924, 34, 15-62.

This is a résumé of theories of the origin of the state in ancient and early medieval times with special emphasis on the question of early terminology. The concepts of society, state and government were not sharply defined until comparatively recent times and are still often used with a certain vagueness. No definite theories regarding the state existed in Homeric days but mere descriptions of semi-tribal, semi-feudal conditions are offered. Socrates failed to develop systematic theories on the subject but introduced the conception of a law of nature as contrasted with human laws thus opening up a fertile field of political speculation. Plato gave a picture of an ideal industrial society tracing the origin of society or the state which are identified, to the instinct of sympathy working in the presence of geographic economic and political factors. In the laws he stresses the rôle of evolution and the antiquity of man. Subjectively the basis of

the state is justice which is founded on the social division of labor. Aristotle begins to distinguish between state and society, finding their subjective basis in friendship and gregariousness. The Stoics traced the origin of the state to natural law, social instinct and an ethical imperative or rational perception of man's relation to his fellows. The Epicureans for the first time assign the origin of the state to a social compact on the part of the components of society. Polybius like Aristotle defines and classifies various types of government and describes the cycle of their appearance. Lucretius ascribes the origin of the state to a social compact for mutual protection after a period of anarchy, following an epoch of kings. Cicero combines the views of his predecessors and stresses the factor of like mindedness. Seneca and the Patristic Fathers view the state as a product of human depravity and regard government as having a divine source. C. M. DISERENS (Cincinnati).

11. MENTAL DEVELOPMENT IN MAN

908. FUKUDA, T., A Survey of the Intelligence and Environment of School Children. *Amer. J. of Psychol.*, 1925, **36**, 124-139.

A survey of the intelligence of the children in a school of 257 by the Terman Revision of the Binet Simon Test shows a slightly higher average I.Q. for the English speaking than for the non-English speaking class. Children whose parents are engaged in so-called brain and skilled work rate higher than those whose parents are of other occupations. There is a difference of 13 per cent in the average I.Q. business and office work and unskilled labor, and a difference of 5 per cent between skilled labor and unskilled labor. The English speaking people are engaged more in "brain and skilled" work and less in unskilled labor than the non-English speaking class. They also rank higher on a rating of the child's environment. Ratings of environment correlate .53 with intelligence quotients. Intelligence, nationality and environment appear to be closely related. G. J. RICH (Chicago, Ill.).

909. THORNDIKE, E. L., Measurement of Intelligence. *Psychol. Rev.*, 1924, **31**, 219-252.

Three kinds of defect in modern intelligence tests are noted:
(1) The content of the tests is ambiguous; a variety of tasks are set.
(2) The units of measure are arbitrary. The lack of a zero point

of intelligence and also the age basis are not satisfactory. (3) The significance of intelligence tests is ambiguous. Since there is no generally accepted criterion of intellect it is impossible to say what the tests measure. In positive reconstruction it is noted that the intelligence tests measure intellectual products and that measures of intelligence imply evaluation. Three criteria for evaluating the tests are considered: truth-getting; development with age; ability to learn. Other attempts to evaluate the tests have been made on the basis of response to novelty and relational thinking. The materials of tests have been limited, but there is no reason why tests should not draw upon any kind of material. The form of intelligence tests should be flexible and a wide range of operations should be covered. As regards scoring we must come to some objective basis of difficulty. An empirical means of defining difficulty is suggested (244). Intelligence tests should distinguish level, extent and speed of intellect. Three theorems and two charts are presented. P. T. YOUNG (Illinois).

910. GILCHRIST, O. B., A New View of Mental Development. *Psychol. Rev.*, 1924, 31, 297-310.

The *Gestalt* psychology as represented by Koffka and Köhler has given us a new view of mental development, a view consistent with the facts of infant psychology. The viewpoint marks an advance from the work of Watson, Thorndike and other students of animal behavior. The mechanistic theory of behavior is unsatisfactory; the *Gestalt* theory offers a more adequate basis for interpretation. Such men as Stout and McDougall, independent of the *Gestalt* psychology, have evolved hypotheses akin to it. P. T. YOUNG (Illinois).

911. LAIRD, D. A., and REMMERS, H., A Study of Estimates on Intelligence from Photographs. *J. of Exper. Psychol.*, 1924, 7, 429-445.

The authors used a set of ten photographs of students who had been given a standard intelligence test. Three hundred and seventy-six subjects, persons of all sorts, were asked to arrange them in order of intelligence. Over half of these persons had been tested themselves so that it was possible to discover how their judgments correlated with their intelligence. The results show that the average of judgments is no better than luck; that intelligence on the part of those judging makes no difference; and that even if a judge does well on the first trial he is likely to do badly in arranging another

set of pictures. Sets of two pictures each were also used, and here again it was also found that the judgments were merely a matter of luck. The same thing held true of persons working together, and of a professional "character reader." M. B. PRATT (Wellesley).

912. SYMONDS, P. M., On the Loss of Reliability in Ratings Due to Coarseness of the Scale. *J. of Exper. Psychol.*, 1924, 7, 456-461.

After a discussion of the various ways in which scales may be constructed, the writer concludes that "for rating traits of personality the optimum number of class intervals is 7. Rating with a scale of more than this number of classes demands a discrimination which does not yield an increase in reliability sufficiently great to make the increase worth while according to an arbitrary definition of such worthwhileness. Likewise, according to our definition, a rating scale with a fewer number of classes suffers from a loss of reliability greater than is allowed, due to coarseness of grouping. The graphic rating scale, although permitting as close a discrimination as possible, contributes but little to increased reliability over a 7-point scale. Group mental and scholastic tests which cover a range of score of a hundred or more points give an illusory impression of discrimination." M. B. PRATT (Wellesley).

913. GATES, A. I., A Critique of Methods of Estimating and Measuring the Transfer of Training. *J. Educ. Psychol.*, 1924, 15, 545-558.

The transfer of reading ability furnished the subject matter for this work, the main object of which was to examine the "control group method" of studying transfer. Results obtained experimentally were compared with the estimates of experts, and with conclusions based on multiple correlations of factors in a first performance in order to find the reliability of the later two methods. Gates found the customary control group method unsatisfactory, "since it is probable that ability to take tests generally makes the total transfer larger than that due to gain in subject matter *per se*." He suggests that in the future tests be scrutinized as not merely measures of one thing but of various abilities; to perceive words or digits, to adjust to a certain kind of task-under-time-pressure, to control attention, to write words or figures in such and such a way, and so forth. In judgment, experts in psychology were found able to estimate relative amounts of transfer to different described functions, but were

unable to appraise accurately absolute magnitudes. It was found possible by means of partial correlations to estimate roughly the relative amounts of transfer. J. D. WEINLAND (Lehigh).

914. HAGGERTY, H. E., and NASH, H. B., Mental Capacity of Children and Parental Occupation. *J. Educ. Psychol.*, 1924, 15, 559-572.

This study is placed in its proper perspective by recalling the intelligence differences between occupational groups in the army. Here intelligence differences in New York rural schools between children from different occupational groups are shown. The measure was Haggerty Intelligence Examination, Delta 2. No attempt is made to attribute differences to heredity or environment, a simple statement of fact being given with the suggestion that its educational significance should be noted. It has previously been shown that success in intelligence tests argues probable success in school; this investigation shows success in intelligence tests to be directly related to the occupations of the fathers. The children of professional fathers can master the present curriculum, the children of artisan fathers are much less likely to succeed. That the latter are entitled to a modification of present educational procedures to facilitate their progress through school is a possible inference from this data. J. D. WEINLAND (Lehigh).

915. ENGLEHARDT, J. L., A Test of Physical Efficiency. *J. Educ. Psychol.*, 1924, 15, 573-577.

This test is based on the one originated by D. A. Sargent and discussed in *Sch. and Soc.*, 13, 125, under the title, "The Physical Test of a Man." Englehardt modified Sargent's test, and as he uses it it consists of a series of vertical jumps repeated as rapidly as possible for fifteen seconds. This test is found to be not affected by previous training in general athletics, and is thought to measure the "unknown quality;—vim, vitality, or driving power." A mechanism was devised for accurate measurement. With university boys a correlation of .79 was found between this test and qualified judgments of physical efficiency. Used in correlation with mental abilities the test would indicate little relationship between physical and mental efficiency. J. D. WEINLAND (Lehigh).

916. WAGER, R. E., Fixation-Accommodation Rates as Factors in Reading. *J. Educ. Psychol.*, 1924, 15, 579-587.

The data, previously secured, and the apparatus used is described by Wager in the *J. Educ. Psychol.*, 1922, 13, 561. The conclusion reached in the present paper is that motor reaction times are to be regarded as significant factors in reading rates. So regarded, speed in reading is not to be considered as determined alone by habit, or attention span, but rather by a complexity of factors of which fixation-accommodation time is important. It is not inferred from this work that faster rhythm and wider span cannot be developed, but that native physiological limits are placed upon each individual, setting bounds to the maximum rate at which he may make the necessary muscular adjustments involved in quick reading. J. D. WEINLAND (Lehigh).

917. NEIFELD, M. R., Formulas for Facilitating the Computation of the Mean of the Distribution Obtained by Combining Component Distributions. *J. Educ. Psychol.*, 1924, 15, 588-591.

The formulas presented enable one to predict the amount of change in the mean of a distribution when one or more component series are either subtracted from or added to the entire distribution. They simplify the arithmetic by reducing the size of the numbers used in the calculations since distributions expressed in percentages can be used in the formulas in substitution for the actual numbers. The mean of a combined distribution is found equal "to the means of one of the component distributions increased by the algebraic quantity obtained by dividing the difference of the means of the two component distributions by the ratio of the populations of the two component distributions increased by unity." J. D. WEINLAND (Lehigh).

918. REED, H. B., A Further Note on the Whole and Part Method. *J. Educ. Psychol.*, 1924, 15, 592-595.

The value of the "Whole Method" in learning is here seriously questioned and the experimental data leading to its promulgation, reviewed. Reed calls attention to the fact that the Saving Method of measurement cannot be used to settle the "Whole or Part" controversy because it depends on the relative differences between the times compared, and ignores the amount of work per unit of time. To quote: "If we base our judgments on the saving method, then

method A is the more economical for retention. But this strikes us as a falsity, for method A required 4 minutes longer in the learning and one minute longer in the relearning (than B). The reason that it gives a larger percentage retained is that it required so long to learn. The basing of conclusions on the above method and the small number of subjects often used in the experiments brings the author to the conclusion that the whole method has no such clear case as educational authorities often give it. Much data is in favor of part method. An extensive research into the problem is called for. J. D. WEINLAND (Lehigh).

919. HERRING, J. P., The Verification of Group Examinations. *J. Educ. Psychol.*, 1924, 15, 596-602.

The author finds group examinations appropriate instruments when groups rather than individuals are the object of study. They may also be useful when individuals at one extreme of a very heterogeneous group have to be identified. He gives tables and statistics, however, arguing that it is not sufficient to give group examinations and then verify doubtful and crucial cases by means of individual testing in cases where: "a school class is to be reclassified, with demotion, promotion and re-sectioning affecting the individuals within the group." Individual Binet testing should be a part of the school program and whenever individual remedy is contemplated, Herring advises the use of the individual tests in the first instance. J. D. WEINLAND (Lehigh).

920. HULL, C. L., and LIMP, C. E., The Differentiation of the Aptitudes of an Individual by Means of Test Batteries. *J. Educ. Psychol.*, 1925, 16, 73-88.

In order to get at a scientific basis for the vocational guidance of an individual it is essential that there be established some uniform scale by which his aptitudes might be measured and their efficiency recognized. This the authors have attempted with some degree of success. The four aptitudes investigated were shorthand, typewriting, high school English, and high school algebra, as obtained from the records of 107 high school students. The tests chosen for the study were taken from Terman's Group Test of Mental Ability, Hoke's Group Prognostic Test of Stenographic Ability, and Downey's Group Will-Temperament Test. Of these Hoke's test proved to be the best for the purpose; and the Downey from which much was expected was rather disappointing. The aptitude test batteries cor-

related fairly high with their criteria, but when they were used to find the difference between one's aptitude to do one or more things the correlations were less. The authors meet the same difficulty here that many of us have met namely, the inability to measure *the degree* with the same accuracy that we can measure *amounts* or *quantity* in the same individual. G. M. MICHAELS (Columbia University).

921. RUCH, G. M., and STODDARD, G. D., Comparative Reliabilities of Five Types of Objective Examinations. *J. Educ. Psychol.*, 1925, 16, 89-103.

Objective tests have been brought forth many times as valid tests without any satisfactory proof as to their maintained validity. To get a better understanding of the problem the present investigation attacks the question through a survey by means of suitable questions in the social sciences and history. This takes the form of two general information tests of 50 questions each. Every item was presented in five different ways or rather "type-forms": recall, 5-response, 3-response, 2-response, and true-false. The recall test refers to the single blank completion. The results obtained from 562 high school seniors indicate the recognition type less reliable than the recall type of the same items for a constant number of items. The recognition test proved much easier than recall. In general this investigation corroborates the work of H. A. Toops. As we know corrections for chance factors have been used in various ways according to the test. Here the formula for multiple-choice test scores "to minimize the chance elements involved", is used. In this study *the reliability was decreased* in three out of four cases by the use of the formulae. Five out of seven tests in the Terman Group Test of Mental Ability showed a decrease in reliability. The mean scores were also lowered. The formula work best only where *n* is small. G. M. MICHAELS (Columbia University).

922. SHEN, E., The Validity of Self-Estimate. *J. Educ. Psychol.*, 1925, 16, 104-107.

Can we judge ourselves more accurately than others or shall we accept the results of Cogan, Conklin, and H. L. Hollingworth whose work show that "the individual does not judge herself as accurately as she is judged by her friend"? Twenty-eight subjects were asked to rank themselves and one another for each of eight different traits: *intellectual quickness, intellectual profoundness, memory, impulsiveness, adaptability, persistence, leadership* and *scholarship*. The con-

clusions are that the inaccuracy of self-estimate is due to a systematic tendency of the individual to overestimate or underestimate himself in all traits. The subject may not be as accurate in the rating of himself in a group, but he is better equipped to judge his relative strength in the several qualities mentioned. G. M. MICHAELS (Columbia University).

923. KNIGHT, F. B., A Note on the Organization of Drill Work. *J. Educ. Psychol.*, 1925, 16, 108-118.

With the aid of five different tests certain aspects of the psychology of learning when applied to drill work in grade VI are systematically studied. Outlines are given to show the manner in which the work would be accomplished effectively. The author is of the opinion that it is possible to build drill work to specifications. The texts in their present form are found to be lacking in the divisions of drill, organization of drill materials, and distribution of practice. "It is possible to build drill material to exact specifications. With the use of an analysis of the skill for which the drill is constructed, it is practical to provide drill which practices every unit of the total function with a calculated frequency." No particular hardship would fall to anyone if the specifications for the drill material were drawn up first and then divided to suit the specifications. This is a sound scientific policy and a practical one which should not have been overlooked up to the present. G. M. MICHAELS (Columbia University).

924. RICE, S. A., Distribution of Intelligence Among College Students. *J. Educ. Psychol.*, 1925, 16, 124-126.

The educational attainment level reached by many of our college students is not a real indication of their innate mental capacity. This conclusion is drawn from a comparison of the distribution curves of the general population from which the students come and a study of the records of 401 students. While educational attainment is not entirely unrelated to innate mental ability it shows no correlation within the mental levels of the general population from which the college student is taken. G. M. MICHAELS (Columbia University).

925. WHITMAN, E. C., A Brief Test Series for Manual Dexterity. *J. Educ. Psychol.*, 1925, 16, 118-123.

This series is void of such factors as mechanical ingenuity, reasoning, or learning ability, but restricts itself entirely to measuring

manual ability. The tests consist of seven items and takes approximately 15 minutes. The items include pegboards of different types and "adjusto trays," and uniform instructions for each item. No marked sex differences are noted, although the boys' scores are slightly higher than the girls' scores in seven of the nine year levels. G. M. MICHAELS (Columbia University).

926. NEWCOMB, R. S., Effective Drill Exercise in Arithmetic. *J. Educ. Psychol.*, 1925, 16, 127-131.

To test the adequacy of certain psychological theories exercises providing practice on combination of numbers from 1 to 10 with each number from 0 to 100 were given to three groups of pupils, one group acting as the control group. The exercises were arranged on 20 cards 3 by 6½ inches and covered the four fundamental operations in arithmetic namely, addition, subtraction, division, and multiplication. The drill classes showed far greater improvement. These encouraging results bear out the contention that systematic and proportionate drill on higher decades should be advocated with more enthusiasm. The value of the test in producing an increase in efficiency must be recognized. G. M. MICHAELS (Columbia University).

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